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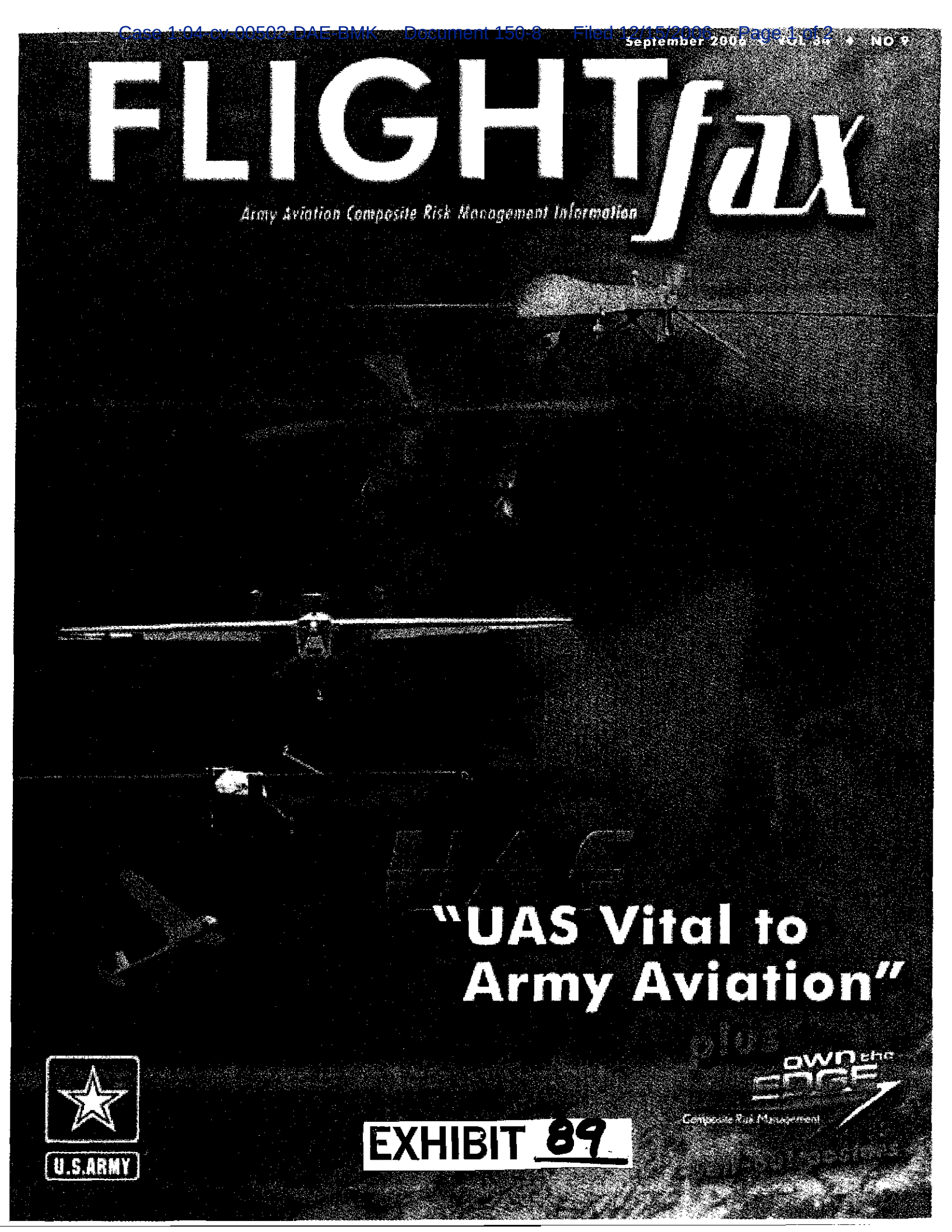
FLIGHTfax

Army Aviation Composite Risk Management Information



"UAS Vital to Army Aviation"

U.S.ARMY

own the edge

Composite Risk Management

EXHIBIT 89

UAS Vital to A

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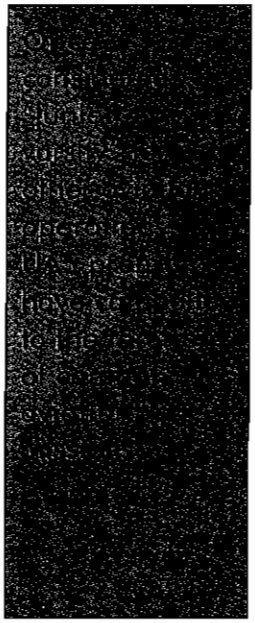
COL DON HAZELWOOD, PM-UAS

The desire for dedicated reconnaissance assets in the Global War on Terrorism has led to greater numbers of Unmanned Aircraft Systems (UASs) being introduced on the battlefield.



Since the onset of Operation Iraqi Freedom (OIF), the total number of UAS and corresponding flight hours continues to grow at exponential rates. At the start of OIF, the only Army UAS capability supporting the effort was a single Hunter Company and its complement of six air vehicles (AVs) and four ground control stations (GCSs). Since then, the Army's typical rotation of UAS in Iraq has expanded significantly, with more than 579 Ravens, 60 Shadows, 4 I-GNATs, and 6 Hunters to complement various other joint UAS assets.

As of FY05, Army UASs flew a combined 152,120 total flight hours, of which 104,349 hours were flown strictly in support of combat operations. This translates into 90 percent of all UAS missions flown in combat operations. Once considered "junior varsity" to other aviation operations, UAS programs have catapulted to the forefront of combat aviation missions. Combat developers responding to calls for more and better capable systems are once again pushing the envelope of this latest technological frontier, finding ways to exploit everything this newly tapped resource can offer and then expediting this asset into the hands of commanders in the fight. This sudden explosion of UAS interest and fielded systems, however, has seen its share of growing pains, particularly in the area of aircraft mishaps.

Along with the sudden proliferation of systems over the past 3 years came an initial spike in accident rates that exceed those typically experienced in manned aviation. Accident rates, in accordance with Department of Defense Instruction (DODI) 6055.7, *Mishap Investigation, Reporting, and Recordkeeping,* are based on the number of accidents per 100,000 flight hours. Until recently, most UAS programs had yet to top the 100,000 flight hours needed to accurately provide this historical data. In FY05 alone, Shadow experienced 66 Class A through C accidents, and Hunter experienced 5 mishaps. In comparison, manned aviation experienced only 35 Class A through C accidents in FY05.

With accident rates for UASs exceeding manned aviation by up to 2.6 times, the U.S. Army Aviation Warfighting Center (USAAWC) and Program Executive Office for Aviation (PEO-AVN) combined efforts with the sole purpose of finding ways to reduce UAS mishaps. Analyzing mishaps through the Doctrine, Organization, Training, Materiel, Leadership, Personnel, and Facilities (DOTMLPF) framework, several contributing factors in key areas came to light. High incident rates in the areas of mechanical failure (materiel) and human error (organization, training, and leadership) led to focused solutions such as better engines for Shadow and a greater emphasis on procedures, such as following checklists and using operations manuals. The USAAWC and PEO-AVN are now well underway in implementing